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Pipe with several layers comprising of the helical protuberances of guidance of fluid on its inner surface.

The present invention has as an object a pipe with several layers to transport fluid.

The majority of the conventional pipes used until now present a surface inner single, straight and smooth, which poses some problems

When the fluid tomb vertically or runs out in the pipe, the noise generated by the slow flow, the shocks in fluid itself and the irregular shocks of friction of fluid against the inner surface of the pipe are propagated towards the outer one. The fluid one which tomb blocks the internal volume of the pipe and raises the pressure prevailing inside the pipe, which requires the addition of additional pipes in the low part of the piping to take account of this pressure.

Consequently the purpose of the present invention is creating a pipe with several layers avoiding above the disadvantages. The invention concerns for this purpose a pipe with several layers to transport fluid, characterized in what a layer of material foam intended to dissipate the noise is formed between an inner layer presenting several helical protuberances of guidance of fluid out of synthetic resin and an outer layer of cover out of synthetic resin, a passage being formed between the helical protuberances of guidance of fluid laid out with intervals on the inner surface of the inner layer at helical synthetic resin protuberances.

The invention is described more in detail ciaprès while referring to the annexed drawings, in which

- figure 1 is a perspective view of the present invention with a cut out part
- figure 2 is a view out of transverse cut following line A-A of figure 1
- figure 3 is a view out of longitudinal cut following line B-B of figure 2.

One now will refer in detail with the drawings which represent a preferential example of performing of the present invention. The pipe with several layers 10 represented on figures 1 to 3 comprises a layer of material foam 2 intended to dissipate the noises, this layer being formed between an helical inner layer out of synthetic resin 3 and one outer layer of cover out of synthetic resin 1. A passage 5 is formed by a certain number of protuberances of guidance of

fluid 4 slightly curved and which are repeated with intervals on the inner surface of the helical inner layer out of synthetic resin 3.

Consequently, in the case of the present invention, the fluid one moves in passage 5, of helical, formed type in pipe 10. It is thus because a certain number of protuberances of guidance of fluid 4, repeated with intervals, slightly curved with an helical form, are formed in the helical layer out of synthetic resin 3 and guide the fluid one.

Moreover, when the fluid one moves, it està-statement when it falls or runs out while being guided in passage 5, the shocks are avoided in fluid the luimême. The speed of the flow is also accelerated.

To remove the noise generated in proportion of the flow velocity as well as the vibrations generated by the movement of fluid along the helical layer out of synthetic resin 3, one lays out the layer of material foam 2 of dissipation of the noise.

The layer of material foam 2 intended to dissipate the noise removes effectively the vibrations of the helical layer out of synthetic resin 3 due to the shocks coming from fluid in movement. That avoids the propagation with the outer layer of cover out of synthetic resin 1. One dissipates also the noise generated by the movement of the fluid one.

Moreover, into the case of following pipe 10 the present invention, when the fluid one moves, especially when it falls, it goes down along passage 5 and this fluid downward preserves a descent in rotation or a slight vortex due to its narrow contact with passage 5, which creates an empty space or a layer of air at the center. It is not thus necessary to associate an additional pipe to evacuate the air pressure, as it is the case in the conventional pipes. An improved aspect thus is obtained.

In conclusion, the present invention is very useful. One obtains numerous effects such as the increase of the momentum of fluid per unit time, the noise suppression and of the vibrations, which increases especially the pressure resistance and the durability of the pipe.

CLAIM

Pipe (10) with several layers to transport fluid, characterized in what a layer of material foam (2) intended to dissipate the noise is formed between an inner layer presenting several helical protuberances (4) of guidance of fluid out of synthetic resin (3) and an outer layer of synthetic resin cover (1), a passage (5) being formed between the helical protuberances (4) of guidance of fluid laid out with intervals on the inner surface of the inner layer at helical synthetic resin protuberances.